

**From:** Walter Clapp [mailto:wdclapp@gmail.com]

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**To:** Graff, Trevor <Trevor.Graff@mt.gov>; Bill Pascoe (PascoeEnergy@aol.com) <PascoeEnergy@aol.com>; Kevin Owens <kevin@beartoothelectric.com>

**Subject:** Comments for September 23 ETIC Meeting

ENERGY &  
TELECOMMUNICATIONS  
INTERIM COMMITTEE 2019-2020

Trevor,

September 23, 2019

Exhibit 10

I am a catastrophic risk specialist with a J.D. from Georgetown Law. I interned for U.S. House Energy and Commerce, U.S. Senate Judiciary, and the American Public Power Association. I have also interviewed countless Generals, Engineers, and Physicists about our nation's electric grid. Most recently, in April of this year, I attended NOAA's Space Weather Conference (<https://www.swpc.noaa.gov/news/2019-space-weather-workshop-1-5-april-2019-0>) on behalf of Beartooth Electric Cooperative. There I confirmed a truth about our Transmission system.

High voltage, long distance transmission was an economical idea invented before we understood the threats presented by space weather, or our electromagnetic earth. We cannot protect such a system (which creates monstrous, high energy antenna that attracts DC energy from space weather) against the theoretical limits of a Coronal Mass Ejection (physicists agree that at least a 10x Carrington event is the floor). Current industry led GIC studies do not account for this fact. They also do not account for the countless communication satellites launched in the solar minimum, which the industry relies on. The Federal Power Act, and the Federal Government's control of "interstate commerce" greatly limits what the state legislatures do.

To be most effective, the State should create funding for Co-Ops (new or existing, or other entities/groups of people) to invest in low voltage distribution microgrids. Period. Keep the energy in Montana - keep it low voltage - keep it at the distribution level. This is the only solution to solar weather (which is a when, not if, question). To do this, the legislature should consider making exceptions to NWE's exclusivity for new microgrids replacing NWE service - or at least allow them to create a redundancy.

Investing more in aging high voltage, long distance transmission is throwing good money after bad, because high voltage, long distance transmission, will not be very important to consumers in 50 years. And relying exclusively on such an old framework jeopardizes Montana until then.

Warm Regards,

Walter

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